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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/589,859

08/16/2007

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EXAMINER

VIANA DI PRISCO, GERMAN

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

06/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,859	Applicant(s) JOACHIM ET AL.	
	Examiner GERMAN VIANA DI PRISCO	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 16 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17, 18 and 20-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/17/2006 and 11/07/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on 08/17/2006 and 11/07/2006 are being considered by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-3, 5, 10,13-15,17,18, 20, 22, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toskala et al. ("Toskala", United States Patent Application Publication No.: US 2003/0219037 A1) in view of Ranta-Aho et al. ("Ranta-Aho patent", United States Patent No.: US 6,970,427 B2).

Consider claims 1, 13 and 17 Toskala discloses a method and a mobile terminal (UE 18 in figure 1) (inherently teaching a transmitter, a receiver and a processor capable of executing instructions) for communicating resource requests for dedicated uplink channel resources in a mobile communication system, comprising performing by the mobile terminal: transmitting via a dedicated uplink control channel uplink control information associated to uplink data to a base station controlling a serving cell (high speed dedicated control channel is used to transmit rate change requests RR) (paragraph [0028]), wherein the control information comprises a resource request flag that, when set, requests the base station to increase uplink resources for uplink data transmissions via an uplink dedicated channel (a change rate request can be communicated as a single bit) (paragraphs [0025]-[0028]).

However Toskala does not specifically disclose that the mobile terminal does set the resource request flag, if the mobile terminal transmits uplink data via the dedicated

uplink channel utilizing the maximum amount of uplink resources set by a scheduling grant.

In the same field of endeavor, Ranta-Aho patent discloses that the mobile terminal does set the resource request flag, if the mobile terminal transmits uplink data via the dedicated uplink channel utilizing the maximum amount of uplink resources set by a scheduling grant (the mobile terminal is allowed to ask for a rate increase only if it is transmitting with the maximum data rate allowed)(column 4, lines 35-38) .

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to set the resource request flag as disclosed by Ranta-Aho patent in the system of Toskala in order to accurately keep track of the maximum allowed uplink data rate.

Consider claims 2, 14 and 18 Toskala discloses a method and a mobile terminal (UE 18 in figure 1) (inherently teaching a transmitter, a receiver and a processor capable of executing instructions) for communicating resource requests for dedicated uplink channel resources in a mobile communication system, comprising performing by the mobile terminal: transmitting via a dedicated uplink control channel uplink control information associated to uplink data to a base station controlling a serving cell (high speed dedicated control channel is used to transmit rate change requests RR) (paragraph [0028]), wherein the control information comprises a resource request flag that, when set, requests the base station to increase uplink resources for uplink data transmissions via an uplink dedicated channel (a change rate request can be communicated as a single bit) (paragraphs [0025]-[0028]).

However Toskala does not specifically disclose that the mobile terminal does not set the resource request flag, if the mobile terminal transmits uplink data via the dedicated uplink channel without utilizing the maximum amount of uplink resources set by a scheduling grant or the mobile terminal is in a process of step-wise increasing the amount of uplink resources utilized for uplink data transmissions.

In the same field of endeavor, Ranta-Aho patent discloses that the mobile terminal the mobile terminal does not set the resource request flag, if the mobile terminal transmits uplink data via the dedicated uplink channel without utilizing the maximum amount of uplink resources set by a scheduling grant or the mobile terminal is in a process of step-wise increasing the amount of uplink resources utilized for uplink data transmissions (the mobile terminal is allowed to ask for a rate increase only if it is transmitting with the maximum data rate allowed)(column 4, lines 35-38) .

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to set the resource request flag as disclosed by Ranta-Aho patent in the system of Toskala in order to accurately keep track of the maximum allowed uplink data rate.

Consider claim 3 as applied to claim 1 above, claim 20 as applied to claim 2 above, and claims 15 and 25 as applied to claim 13 above, Ranta-Aho patent further discloses receiving a scheduling grant setting the maximum amount of uplink resources the mobile terminal is allowed to utilize for the transmission of uplink data via the uplink dedicated channel from the base station controlling the serving cell (column 3, lines 60-

62), and if the amount of uplink resources utilized for uplink data transmission is lower than the maximum amount of uplink resources, step-wise increasing the amount of uplink resources utilized for uplink data transmissions via the dedicated uplink channel until the utilized amount of uplink resources is equivalent to the maximum amount of uplink resources (the mobile terminal can increase the uplink data rate in steps up to the maximum allowed by the Node B) (figure1 and column 3, lines 30-54).

Consider claims 5 and 22, and as applied to claims 1 and 2 respectively above, Ranta-Aho patent further discloses that the scheduling grant indicates the maximum uplink resources all mobile terminals controlled by the base station of the serving cell transmitting data via a dedicated uplink channel respectively are allowed to utilize for uplink data transmissions via the uplink dedicated channels within a transmission time interval (the mobile terminal can increase the uplink data rate in steps up to the maximum allowed by the Node B) (figure1 and column 3, lines 30-54).

Consider claims 10 and 24, and as applied to claim 1 above, Ranta-Aho patent further discloses that the step size when step-wise increasing the amount of uplink resources is configurable (the Transport Format Combination Set is created, hence configured, by the RNC) (column 3, lines 30-35).

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toskala et al. ("Toskala", United States Patent Application Publication No.: US 2003/0219037 A1) in view of Ranta-Aho et al. ("Ranta-Aho patent", United States Patent No.: US

6,970,427 B2) as applied to claim 10 above, and further in view of Ranta-Aho et al. ("Ranta-Aho publication", United States Patent Application Publication No.: US 2005/0163056 A1).

Consider claim 11, and as applied to claim 10 above, the combination of Toskala and Ranta-Aho patent does not specifically disclosed the claimed limitation.

In the same field of endeavor Ranta-Aho publication discloses receiving control information indicating the step size, and setting the step size according to the control information (paragraph [0025]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to receive control information indicating the step size as disclosed by Ranta-Aho publication in the teachings of Toskala and Ranta-Aho patent in order to change the mobile terminal uplink data rate faster than can be done using increments of a single step.

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toskala et al. ("Toskala", United States Patent Application Publication No.: US 2003/0219037 A1) in view of Ranta-Aho et al. ("Ranta-Aho patent", United States Patent No.: US 6,970,427 B2) as applied to claim 11 above, and of Ranta-Aho et al. ("Ranta-Aho publication", United States Patent Application Publication No.: US 2005/0163056 A1) and further in view of Sebire et al. ('Sebire', United States Patent Application Publication No.: US 2006/0031563 A1).

Consider claim 12, and as applied to claim 11 above, the combination of Toskala, Ranta-Aho patent and Ranta-Aho publication does not specifically disclosed the claimed limitation.

In the same field of endeavor Sebire discloses that control information indicating the step size set the step size to a value equal to the difference between the maximum amount of resources the mobile terminal is allowed to utilize and the amount of uplink resources currently utilized by the mobile terminal (paragraph [0086]) .

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a step size as disclosed by Sebire in the teachings of Toskala, Ranta-Aho patent and Ranta-Aho publication in order to control the uplink data rate of a mobile terminal.

9. Claims 4 and 21, and as applied to claims 1 and 2 respectively above, are rejected under 35 U.S.C. 103(a) as being unpatentable over Toskala et al. ("Toskala", United States Patent Application Publication No.: US 2003/0219037 A1) in view of Ranta-Aho et al. ("Ranta-Aho patent", United States Patent N0.: US 6,970,427 B2), and further in view of Mueckenheim et al. ("Mueckenheim", United States Patent Application Publication No.: US 2006/0215604 A1).

Consider claims 4 and 21, the combination of Toskala and Ranta-Aho patent does not specifically disclose the claimed limitation.

In the same field of endeavor, Mueckenheim discloses determining the occupancy of a buffer in the mobile terminal buffering data to be transmitted via the dedicated uplink channel, and setting the resource request flag (rate request bit) to request the base station to increase the uplink resources for uplink data transmissions via the uplink dedicated channel, if all of the following criteria are met: a) the power status of the mobile terminal allows for uplink data transmission via the dedicated uplink channel utilizing more uplink resources than the maximum uplink resources set by the scheduling grant of the base station controlling the serving cell (the mobile terminal has power available to transmit data at a higher rate) has power b) the maximum uplink resources set by the scheduling grant from the base station controlling the serving cell require more than a configurable number of transmission time intervals for transmitting buffered uplink data via the dedicated uplink channel (the amount of data in the buffer requires a greater number of TTIs), and c) the mobile terminal is currently utilizing the maximum uplink resources set by the scheduling grant for uplink data transmission (the mobile terminal is currently transmitting at a maximum allowed ETFC) (paragraphs [0004], [0006] and [0007]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to set the resource request flag as disclosed by Mueckenheim in the teachings of Toskala and Ranta-Aho patent in order to avoid delays in scheduling time-sensitive services.

10. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toskala et al. ("Toskala", United States Patent Application Publication No.: US

2003/0219037 A1) in view of Ranta-Aho et al. ("Ranta-Aho patent", United States Patent No.: US 6,970,427 B2), and further in view of Sagfors et al. ("Sagfors", United States Patent Application Publication No.: US 2006/0159016 A1).

Consider claim 6, and as applied to claim 2 above the combination of Toskala and Ranta-Aho patent does not specifically disclose the claimed limitations.

In the same field of endeavor, Sagfors discloses that the mobile terminal is in soft handover between a serving cell controlled by the base station and a non-serving cell controlled by a base station, and wherein the method further comprises: transmitting the uplink data via a dedicated uplink channel (E-DPDCH) to the base station controlling the non-serving cell (mobile terminal is in soft handover), and setting the maximum uplink resources the mobile terminal is allowed to utilize for uplink data transmissions via both dedicated uplink channels according to the scheduling grant received from the base station controlling the serving cell (via the serving cell the base station can assign absolute grants limiting the maximum bit rate/power of the mobile terminal) (paragraph [0032]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to set the maximum uplink resources the mobile terminal is allowed to utilize for uplink data transmissions as disclosed by Sagfors in the teachings of Toskala and Ranta-Aho in order to efficiently control congestion in a radio access network.

Consider claim 7, Sagfors further discloses receiving a relative scheduling grant from the base station controlling the non-serving cell indicating to decrease the amount

of uplink resources currently utilized by the mobile terminal, decreasing the amount of uplink resources currently utilized by the mobile terminal in response to the relative scheduling grant, and setting the maximum amount of uplink resources to a decreased amount of uplink resources for uplink data transmission in the next transmission time interval (paragraph [0033]).

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toskala et al. ("Toskala", United States Patent Application Publication No.: US 2003/0219037 A1) in view of Ranta-Aho et al. ("Ranta-Aho patent", United States Patent No.: US 6,970,427 B2), and of Sagfors et al. ("Sagfors", United States Patent Application Publication No.: US 2006/0159016 A1) and further in view of Mueckenheim et al. ("Mueckenheim", United States Patent Application Publication No.: US 2006/0215604 A1).

Consider claim 8, and as applied to claim 7 above, the combination of Toskala Ranta-Aho patent and Sagfors does not specifically disclose the claimed limitations.

In the same field of endeavor, Mueckenheim discloses determining the occupancy of a buffer in the mobile terminal buffering data to be transmitted via the dedicated uplink channel, and setting the resource request flag (rate request bit) to request the base station to increase the uplink resources for uplink data transmissions via the uplink dedicated channel, if all of the following criteria are met: a) the power status of the mobile terminal allows for uplink data transmission via the dedicated uplink channel utilizing more uplink resources than the maximum uplink resources set by the scheduling grant of the base station controlling the serving cell (the mobile terminal has

power available to transmit data at a higher rate) has power b) the maximum uplink resources set by the scheduling grant from the base station controlling the serving cell require more than a configurable number of transmission time intervals for transmitting buffered uplink data via the dedicated uplink channel (the amount of data in the buffer requires a greater number of TTIs), and c) the mobile terminal is currently utilizing the maximum uplink resources set by the scheduling grant for uplink data transmission (the mobile terminal is currently transmitting at a maximum allowed ETFC) (paragraphs [0004], [0006] and [0007]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to set the resource request flag as disclosed by Mueckenheim in the teachings of Toskala, Ranta-Aho patent and Sagfors in order to avoid delays in scheduling time-sensitive services.

12. Claims 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toskala et al. ("Toskala", United States Patent Application Publication No.: US 2003/0219037 A1) in view of Ranta-Aho et al. ("Ranta-Aho patent", United States Patent No.: US 6,970,427 B2), and of Sagfors et al. ("Sagfors", United States Patent Application Publication No.: US 2006/0159016 A1), and further in view of 3GPP TSG-RAN WG2 #46 Happy bit with mirroring.

Consider claims 9 and 23 and as applied to claim 7 above, the combination of Toskala, Ranta-Aho patent and Sagfors does not specifically disclose the claimed limitations.

In the same field of endeavor 3GPP TSG-RAN WG2 #46 Happy bit with mirroring discloses the control information transmitted via the dedicated control channel to the base station controlling the serving cell further comprises a transport format indicator indicating the transport format combination used for transmitting uplink data to the base station controlling the serving cell within a transmission time interval, wherein the transport format indicator indicates a transport format combination utilizing a lower amount of uplink resources than allowed by the base station of the serving cell in the scheduling grant, and if the mobile terminal is transmitting uplink data via the uplink dedicated channel to the base station controlling the serving cell utilizing the decreased amount of uplink resources, setting the resource request flag in the control information transmitted in the transmission time interval to the base station controlling the serving cell, wherein the combination of the transport format indicator and the resource request flag in the control information indicates to the base station controlling the serving cell that the maximum amount of uplink resources has been decreased based on a relative scheduling grant received from the base station controlling the non-serving cell (Node B can make a distinction by the Happy bit being set to unhappy while the rate is set lower) (section 2.2 , case 5 in table 3 and paragraph 5).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the transport format indicator and the resource

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request flag as disclosed by 3GPP TSG-RAN WG2 #46 Happy bit with mirroring in the teachings of Toskala, Ranta-Aho patent and Sagfors in order for the Node B to be able to distinguish the reason why the mobile terminal has power headroom.

Conclusion

13. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERMAN VIANA DI PRISCO whose telephone number is (571)270-1781. The examiner can normally be reached on Monday through Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/German Viana Di Prisco/
Examiner, Art Unit 2617
May 30, 2008

/Duc Nguyen/
Supervisory Patent Examiner, Art Unit 2617